

Application No. 10/720,594

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-3. (Canceled)

4. (Previously presented) A process for controlling the speed of a traveling block of a well workover rig, comprising:

determining the speed of the traveling block, the position of the traveling block within a traveling range, and the weight on the traveling block, wherein the weight of the traveling block is measured by a weight sensing device; comparing the speed of the traveling block to a maximum velocity value, wherein the maximum velocity value is determined as a function of the measured weight on the traveling block and wherein the maximum velocity value in an upper slow down zone of the traveling range of the traveling block is lower than the maximum velocity value at a point immediately below the upper slow down range, the length of the upper slow down zone being proportional to the momentum of the traveling block; and adjusting the speed of the traveling block so as to maintain its speed at or below the maximum velocity value.

5. (Original) The process of claim 4, wherein the speed of the traveling block is adjusted by slowing down the speed of the engine controlling the traveling block.

6. (Original) The process of claim 4, wherein an alarm is sounded when the speed of the traveling block exceeds the maximum velocity value.

7. (Canceled)

8. (Previously presented) The process of claim 4, wherein the maximum velocity value in the upper slow down zone continually decreases from the bottom of the zone to the top of the zone.

9. (Canceled)

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10. (Previously Presented) The process of claim 4, wherein the maximum velocity value in a lower slow down zone of the traveling range of the traveling block is lower than the maximum velocity value at a point immediately above the lower slow down zone.
11. (Original) The process of claim 10, wherein the maximum velocity value in the lower slow down zone continually decreases from the top of the zone to the bottom of the zone.
12. (Original) The process of claim 10, wherein the length of the lower slow down zone is proportional to the momentum of the traveling block.
13. (Original) The process of claim 4, further comprising the steps of sensing when the traveling block has reached an upper most position and stopping the movement of the traveling block when the upper most position is reached.
14. (Original) The process of claim 13, wherein the sensing of the upper most position step is accomplished with a metal detector sensing the traveling block.
15. (Original) The process of claim 4, wherein the traveling block speed is slowed using a pneumatic brake attached to a proportional valve.
16. (Original) The process of claim 4, wherein the traveling range has an upper limit and a lower limit, the process further comprising logging whether or not the traveling block reaches either the upper limit or the lower limit.
17. (Withdrawn) A process for controlling the momentum of a traveling block comprising:
 - determining the speed of the traveling block, the position of the traveling block with a traveling range, and the weight on the traveling block;
 - calculating the momentum of the traveling block;
 - comparing the momentum of the traveling block to a maximum momentum value;
 - and
 - adjusting the speed of the traveling block so as to maintain its speed at or below the maximum velocity value.
18. (Withdrawn) The process of claim 17, wherein the speed of the traveling block is adjusted by slowing down the speed of the engine controlling the traveling block.

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19. (Withdrawn) The process of claim 17, wherein an alarm is sounded when the speed of the traveling block exceeds the maximum momentum value.
20. (Withdrawn) The process of claim 17, wherein the maximum momentum value in an upper slow down zone of the traveling range of the traveling block is lower than the maximum momentum value at a point immediately below the upper slow down range.
21. (Withdrawn) The process of claim 20, wherein the maximum momentum value in the upper slow down zone continually decreases from the bottom of the zone to the top of the zone.
22. (Withdrawn) The process of claim 20, wherein the length upper slow down zone is proportional to the momentum of the traveling block.
23. (Withdrawn) The process of claim 17, wherein the maximum momentum value in a lower slow down zone of the traveling range of the traveling block is lower than the maximum momentum value at a point immediately above the upper slow down range.
24. (Withdrawn) The process of claim 23, wherein the maximum momentum value in the lower slow down zone continually decreases from the top of the zone to the bottom of the zone.
25. (Withdrawn) The process of claim 23, wherein the length of the lower slow down zone is proportional to the momentum of the traveling block.
26. (Withdrawn) The process of claim 17, wherein the traveling block speed is slowed using a pneumatic brake attached to a proportional valve.
27. (Withdrawn) The process of claim 17, wherein the traveling range has an upper limit and a lower limit, the process further comprising logging whether or not the traveling block reaches either the upper limit or the lower limit.